ABSTRACT

An electrically actuated fail-safe valve for controlling fluid flow in deepwater drilling operations comprises a body having a bore therethrough, a closure element mounted in the bore and actuable between a closed position and an open position, a flow tube slidably mounted in the bore, the tube being actuable between a first position in which it does not interfere with the normal bias of the closure and a second position in which it opposes the normal bias of the closure, and a drive mechanism causing the tube to advance from its first to its second position. The drive mechanism comprises a gear drive, a rotating sleeve including a helical groove, and a follower pin on the flow tube and received in the helical groove. Power supplied to the drive causes the sleeve to rotate, bearing on the follower pin and advancing the flow tube to its second position.